

Common Core Mathematics  
Vertical Alignment by Cluster for Grades PK-5

	PreK	K	1	2	3	4	5
<b>Geometry</b>							
<i>Identify &amp; describe shapes (squares, circles, triangles, rectangles)</i>	<b>PK.G.MA.1</b> Identify relative position of objects in space & use appropriate language eg <i>beside, inside, next to, close to, above, below, apart</i> )						
	<b>PK.G.MA.2</b> Identify various 2-d shapes using appropriate language						
<i>Identify &amp; describe shapes (circles, squares, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres)</i>		<b>K.G.1</b> Describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as <i>above, beside, in front of, behind</i> and <i>next to</i> .					
		<b>K.G.2</b> Correctly name shapes regardless of their orientation or overall size					
		<b>K.G.3</b> Identify shapes as 2-d (lying in a plane, "flat") or 3-d ("solid")					
<i>Analyze, compare, create &amp; compose shapes</i>	<b>PK.G.MA.3</b> Create & represent 3-d shapes (ball/sphere, square box/cube, tube/cylinder) using various manipulative materials such as popsicle sticks, blocks, pipe cleaners, patternblocks. & so on	<b>K.G.4</b> Analyze & compare 2- and 3-d shapes in different sizes and orientations, using informal language to describe their similarities, differences, parts (eg number of sides, and vertices/corners) & other attributes (eg having sides of equal length)					
		<b>K.G.5</b> Model shapes in the world by building shapes from components (eg sticks & clay balls) & drawing shapes					
		<b>K.G.6</b> Compose simple shapes from larger shapes (p 24)					

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<i>Reason with shapes &amp; their attributes</i>			<p><b>1.G.1</b> Distinguish between defining attributes vs. non-defining attributes; build &amp; draw shapes that possess defining attributes ( p 28)</p>	<p><b>2.G.1</b> Recognize &amp; draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, &amp; cubes.</p>	<p><b>3.G.1</b> Understand that shapes in different categories (eg rhombuses, rectangles, &amp; others) may share attributes (eg. Having 4 sides) &amp; that the shared attributes can define a larger category (eg. Quadrilaterals). Recognize rhombuses, rectangles, &amp; squares as examples of quadrilaterals &amp; draw examples of quadrilaterals that do not belong to any of these subcategories.</p>		
			<p><b>1.G.2</b> Compose 2-d shapes (rectangles, squares, trapezoids, triangles, half-circles &amp; quarter-circles) or 3-d shapes (cubes, right rectangular prisms, right circular cones &amp; right circular prisms) to create a composite shape &amp; compose new shapes from the composite shape.</p>	<p><b>2.G.2</b> Partition a rectangle into rows &amp; columns of same-size squares &amp; count to find the total number of them.</p>	<p><b>3.G.2</b> Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole (p 37).</p>		
			<p><b>1.G.3</b> Partition circles &amp; rectangles into 2 and 4 equal shares, describe the shares using the words <i>halves</i> , <i>fourths</i> &amp; <i>quarters</i> &amp; use the phrases <i>half of</i>, <i>fourth of</i>, &amp; <i>quarter of</i>. Describe the whole as 2 of, or 4 of the shares. Understand that for these examples that decomposing into more equal shares creates smaller shares.</p>	<p><b>2.G.3</b> Partition circles &amp; rectangles into 2, 3, or 4 equal shares, describe the shares using the words <i>half</i>, <i>thirds</i>, <i>half of</i>, <i>a third of</i> etc. &amp; describe the whole as 2 halves, 3 thirds, 4 fourths. Recognize that equal shares of identical wholes need not have the same shape.</p>			

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<i>Draw &amp; identify lines &amp; angles, &amp; classify shapes by properties of their lines &amp; angles.</i>						<p><b>4.G.1</b> Draw points, lines, line segments, rays, angles (right, acute, obtuse) &amp; perpendicular &amp; parallel lines. Identify these in 2-d figures.</p> <p><b>4.G.2</b> Classify 2-d figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category &amp; identify right triangles.</p> <p><b>4.G.3</b> Recognize a line of symmetry for a 2-d figure such as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures &amp; draws lines of symmetry.</p>	

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<i>Graph points on the coordinate plane to solve real-world and mathematical problems</i>							<p><b>5.G.1</b> Use a pair of perpendicular number lines called axes to define a coordinate system with the intersection of the lines (the origin) arranged to coincide with the 0 on each line &amp; a given point in the plane located by using an ordered pair of numbers called coordinates. Understand that the 1st number indicates how far to travel from the origin in the direction of one axis, and the 2nd number indicates how far to travel in the direction of the 2nd axis with the convention that the names of the 2 axes &amp; the coordinates correspond (eg x-axis &amp; x-coordinate, y-axis &amp; y-coordinate).</p> <p><b>5.G.2</b> Represent real-world &amp; mathematical problems by graphing points in the first quadrant of the coordinate plane, &amp; interpret coordinate values or points in the context of the situation.</p>

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<i>Classify 2-dimensional figures into categories based on their properties.</i>							<b>5.G.3</b> Understand that attributes belonging to a category of 2-d figures also belong to all subcategories of that category (p 48).  <b>5.G.4</b> Classify 2-d figures in a hierarchy based on properties.